

CLAIMS

1. A polymeric hydrogel comprising a drug for the treatment of a posterior segment disease, wherein said drug is capable of being passively released in a therapeutically effective amount to treat said posterior segment disease.

2. The polymeric hydrogel of claim 1, wherein said hydrogel has a water content of between 10% and 90%.

3. The polymeric hydrogel of claim 2, wherein said hydrogel has a water content of between 37.5% and 75%.

3. The hydrogel of claim 1, wherein said drug is an anti-infective; analgesic; anesthetic; antiallergenic agent; mast cell stabilizer; steroidal or non-steroidal anti-inflammatory agent; decongestant; antioxidant; nutritional supplement; angiogenesis inhibitor; antimetabolite; fibrinolytic; neuroprotective drug; angiostatic steroid; mydriatic; cyclopegic mydriatic; miotic; vasoconstrictor; vasodilator; anticlotting agent; anticancer agent; antisense agent, immunomodulatory agent; carbonic anhydrase inhibitor; integrin antagonist; cyclooxygenase inhibitor; differentiation modulator agent; sympathomimetic agent; VEGF antagonist; immunosuppressant agent; or combination or prodrug thereof.

4. The hydrogel of claim 1, wherein said drug is selected from the group consisting of 17-ethynylestradiol, 2-ethoxy-6-oxime-estradiol, 2-hydroxyestrone, 2-propenyl-estradiol, 2-propynyl-estradiol, 4,9(11)-pregnadien-17 α ,21-diol-3,20-dione, 4,9(11)-pregnadien-17 α ,21-diol-3,20-dione-21-acetate, 4-methoxyestradiol, 5-fluorouracil, 6-mannosephosphate, acetazolamide, acetoexamide, acetylcholinesterase inhibitors, acyclovir, adrenal corticalsteroids, adriamycin, aldesleukin, aldose reductase inhibitors, alkylating agents, cyclophosphamide, alpha-tocopherol, amifostine, amphotericin B, anastrozole, anecortave acetate,

angiostatic steroids, angiostatin, antazoline, anthracycline antibiotics, antibody to cytokines, anticlotting activase, anti-cytomegalovirus agents, antifibrinogen, antineogenesis proteins, arsenic trioxide, asparaginase, atenolol, atropine sulfate, azacytidine, azathioprine, AZT, bacitracin, bacitracin, betamethasone, betaxolol, bexarotene, bleomycin, busulfan, calcium channel antagonists, imodipine, diltiazem, capecitabine, carbachol, carmustine, cephalosporin antibiotics, chlorambucil, chloramphenicol, chlorpheniramine, chlorpropamide,

- chlortetracycline, colchicine, cyclooxygenase II inhibitors, cyclopentolate, cyclophosphamide, cyclosporine, cyclosporine A, cytarabine, cytochalasin B, cytokines, dacarbazine, dactinomycin, daunorubicin, demecarium bromide, dexamethasone, diamox, dichlorphenamide, didanosine, dihydroxylic acid, diisopropylfluorophosphate, docetaxel, echinocandin-like lipopeptide antibiotics, echothiophateiodide, eliprodil, endostatin, epinephrine, epirubicin hydrochloride, erythromycin, erythropoietin, eserine salicylate, estradiol, estramustine, etanercept, ethisterone, etoposide, etoposide phosphate, etretinate, eucatropine, exemestane, famvir, fibrinolysin, filgrastim, floxuridine, fluconazole, fludarabine, fluocinolone, fluoromethalone, fluoroquinolone, fluoxymesterone, flutamide, foscarnet, fumagillin analogs, fusidic acid, ganciclovir, gemcitabine HCL, gemtuzumab ozogamicin, gentamicin, glipizide, glutathione, glyburide, goserelin, gramicidin, heat shock proteins, heparin, herbimycin A, homatropine, humanized anti-IL-2receptor mAb, hydrocortisone, hydroxyamphetamine, hydroxyurea, idoxuridine, ifosfamide, imidazole-based antifungals, insulin, interferon alfa-2a, interferon-gamma, interferons, interleukin-2, irinotecan HCL, ketoconazole, leflunomide, letrozole, leuprolide, levamisole, lidocaine, lipid formulations of antifungals, liposomal amphotericin B, lomustine, macrolide immunosuppressants, matrix metalloproteinase inhibitors, medroxyprogesterone, medrysone, melphalan, memantine, mercaptopurine, mestranol, metals, cobalt, copper, methapyriline, methazolamide, methotrexate, methylprednisolone, minocycline, mitomycin, mitotane, mitoxantrone hydrochloride, mono and polyclonal antibodies, muramyl

dipeptide, mycophenolate mofetil, naphazoline, neomycin, nepafenac, neuroimmunophilin ligands, neurotrophic receptors, neurotrophins, nicotinamide, nimodipine, nitrofurazone, nitrogen mustard, nitrosoureas, norethynodrel, NOS inhibitors, ondansetron, oprelvekin, orapamiers, oxytetracycline, paclitaxel, pentostatin, pheniramine, phenylephrine, phospholineiodine, pilocarpine, pipobroman, platelet factor 4, platinum coordination complexes, cisplatin, carboplatin, plicamycin, polymyxin, prednisolone, prednisone, procarbazine, tacrolimus, prophenpyridamine, prostaglandins, protamine, protease and integrase inhibitors, pyrilamine, rapamycin, ribavirin, rimexolone, rituximab, sargramostim, scopolamine, sodium propionate, streptozocin, succinic acid, sulfacetamide, sulfamethizole, sulfonamides, sulfoxazole, superoxide dismutase, suramine, tamoxifen, temozolomide, teniposide, tetracycline, tetrahydrazoline, thalidomide, thioguanine, thymopentin, thyroid hormones, tolazamide, tolbutamide, topotean hydrochloride, toremifene citrate, transforming factor beta2, trastuzumab, triamcinolone, triazole antifungals, trifluorothymidine, triptorelinpamoate, trisodium phosphonoformate, tropicamide, tumor necrosis factor, uracil mustard, valrubicin, VEGF antagonists, VEGF antibodies, VEGF antisense, vidarabine, vinblastine, vincristine, vindesine, vitamin B12 analogues, and voriconazole.

5. The hydrogel of claim 1, wherein said hydrogel comprises a tetrapolymer of hydroxymethylmethacrylate, ethylene glycol, dimethylmethacrylate, and methacrylic acid.

6. The hydrogel of claim 1, wherein said drug is capable of being passively released into an ocular environment under ambient conditions.

7. The hydrogel of claim 1, wherein said drug is capable of being delivered to the posterior segment of the eye.

8. The hydrogel of claim 1, wherein said drug is capable of being delivered to the macula or retina.

9. The hydrogel of claim 1, wherein said drug is capable of being passively released into an ocular environment under existing conditions.

10. The hydrogel of claim 1, wherein said hydrogel is shaped as a contact lens.

11. The hydrogel of claim 10, wherein said hydrogel is capable of correcting vision.

12. The hydrogel of claim 11, wherein said hydrogel is capable of correcting vision in the range of +8.0 to -8.0 diopters.

13. The hydrogel of claim 10, wherein said hydrogel has a base curve between 8.0 and 9.0.

14. The hydrogel of claim 1, wherein said hydrogel comprises an ionic polymer.

15. The hydrogel of claim 1, wherein said hydrogel comprises a non-ionic polymer.

16. The hydrogel of claim 1, wherein said hydrogel comprises etafilcon A, vifilcon A, polymacon B, lidofilcon A, or vasurfilcon A.

17. A method of treating a posterior segment disease, said method comprising contacting an eye of a subject with the hydrogel of claim 1, wherein

said hydrogel delivers a therapeutically effective amount of a drug to treat said posterior segment disease.

18. The method of claim 17, wherein said posterior segment disease is selected from the group consisting of retinal detachment, neovascularization, diabetic retinopathy, macular degeneration, proliferative vitreoretinopathy, endophthalmitis, retinopathy of prematurity, posterior segment trauma, intraocular lens-related posterior segment complications, retinal vascular diseases, macular edema, intraocular tumors, retinal degeneration, vascular retinopathy, inflammatory diseases of the retina, AIDS-related retinitis, uveitis, and systemic diseases with retinal manifestations.

19. A method of fabricating a polymeric hydrogel, said method comprising the steps of contacting said polymeric hydrogel with a solution of a drug capable of treating a posterior segment disease, wherein said drug is passively transferred into said hydrogel.